

EXHIBIT R-2, FY 2000 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1999

BUDGET ACTIVITY: 5

PROGRAM ELEMENT: 0604262N

PROGRAM ELEMENT TITLE: V-22

(U) COST: (Dollars in Thousands)

<u>Project Number & Title</u>	<u>FY 1998 Budget</u>	<u>FY 1999 Budget</u>	<u>FY 2000 Estimate</u>	<u>FY 2001 Estimate</u>	<u>FY 2002 Estimate</u>	<u>FY 2003 Estimate</u>	<u>FY 2004 Estimate</u>	<u>FY 2005 Estimate</u>	<u>To Complete</u>	<u>Total Program</u>
H1425 V-22	487,649	345,782	182,885	151,275	98,713	43,341	19,627	10,423	0	6,929,105
TOTAL	487,649	345,782	182,885	151,275	98,713	43,341	19,627	10,423	0	6,929,105

RDT&E Articles

4

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program element funds the development of a replacement aircraft to meet the medium lift needs of the United States Marine Corps (USMC) and the special operations needs of the United States Special Operations Command (USSOCOM).

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under ENGINEERING & MANUFACTURING DEVELOPMENT (EMD) because it encompasses engineering and manufacturing development of new end-items prior to production approval decision. The four RDT & E test aircraft are production representative.

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EXHIBIT R-2a, FY 2000 RDT&E,N BUDGET PROJECT JUSTIFICATION SHEET

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(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1998 ACCOMPLISHMENTS:

- (U) (\$432,577) Continued MV-22 and CV-22 contract efforts related to the EMD program including efforts at Raytheon (formerly NAWC, Indianapolis). Continued Fatigue Test Articles (FTA) efforts. Continued LSA and training efforts. Completed Depot level LSA. Started drop test article (DTA) testing. Partially funded the EMD aircraft contract overrun.
- (U) (\$55,072) Continued in-house flight test activities, Integrated Test Teams (ITTs), Integrated Product Teams (IPTs), support equipment development, logistics and training activities, the manned flight simulator and numerous other development and test efforts at the government's in-house activities. Completed CV-22 PDR. Started operational test assessment (OT-IID).

2. (U) FY 1999 PLAN:

- (U) (\$283,771) Continue MV-22 and CV-22 contract development efforts, including flight test, GFE integration, logistics efforts, Power By The Hour (PBTH) support of the engine, support equipment procurements, repair of repairables, and other EMD efforts. Continue training efforts including development of the Naval Air Maintenance Trainer Suite (NAMTS). Begin CV-22 modifications for the flight simulator and NAMTS. Completed DTA testing. Continue FTA efforts. Start STA test to failure. Send two EMD aircraft to Bell, Ft. Worth; one for incorporation of CV-22 modifications, and one for remanufacture of a full up CV-22 aircraft. Continue CV-22 software development efforts. Begin Weapons Replaceable Assembly/Test Program Sets (WRA/TPS) development. Partially fund the EMD aircraft contract overrun. Completed CV-22 Critical Design Review (CDR).
- (U) (\$54,746) Continue in-house flight test activities, support of ITTs and IPTs, logistics and training activities, MV-22 and CV-22 site activation planning, the manned flight simulator and numerous other development and test efforts at government in-house activities. Completed OT-IID. Conduct flight test supportability assessment. Conduct EW systems integration efforts, sea trials, planning for CV-22 flight test, and planning for MV-22 OPEVAL. Completed CV-22 CDR.
- (U) (\$7,265) Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 638.

3. (U) FY 2000 PLAN:

- (U) (\$137,412) Continue CV-22 remanufacture and modification efforts. Continue CV-22 software development efforts. Begin TF/TA radar development testing for the CV-22. Complete MV-22 OPEVAL. Continue NAMTS and CV-22 training development efforts. Continue CV-22 peculiar ILS supportability analysis, publications, and spares support. Continue WRA/TPS development. Continue FTA efforts. Continue PBTH support of the engine. Conduct natural icing tests. Complete STA test to failure.

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- (U) (\$45,473) Continue in-house activity's support of ITTs and IPTs, logistics and training activities, the manned flight simulator and numerous other efforts performed at over 12 activities. Participate in CV-22 radar and development testing. Participate in natural icing test. Conduct MV-22 OPEVAL and support. Continue CV-22 peculiar logistic support analysis and site activation planning.

(U) B. PROGRAM CHANGE SUMMARY

	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>
(U) FY 1999 President's Budget:	512,139	355,142	186,838
(U) Appropriated Value:	487,200	355,142	
(U) Adjust. from 1999 President's Budget:	-24,490	-9,360	-3,953
(U) FY 2000/2001 President's Budget:	487,649	345,782	182,885

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CHANGE SUMMARY EXPLANATION:

- (U) Funding: The \$24,490 thousand decrease in FY 98 reflects adjustments for SBIR (\$-13,401K), Federal Technology transfer (\$-13K), and below threshold reprogrammings (\$-11,076K). The \$9,360 thousand decrease in FY 99 reflects Congressional reductions for inflation, contract and advisory assistance services, etc. (\$-7,360K), and below threshold reprogrammings (\$-2,000K). The FY 00 reduction of \$3,953 thousand reflects various adjustments for inflation, pay rates etc..
- (U) Schedule: The CV-22 PDR completed earlier, 1Q98 vice 2Q98. The operational assessment (OT-IID) started in 4Q98 vice 3Q98 as a result of flight test program delays. TECHEVAL integrated into development test effort; there will not be a dedicated TECHEVAL period.
- (U)Technical: Not applicable.

(U) C. OTHER PROGRAM FUNDING SUMMARY

<u>APPN</u>	<u>FY 1998 BUDGET</u>	<u>FY 1999 BUDGET</u>	<u>FY 2000 ESTIMATE</u>	<u>FY 2001 ESTIMATE</u>	<u>FY 2002 ESTIMATE</u>	<u>FY 2003 ESTIMATE</u>	<u>FY 2004 ESTIMATE</u>	<u>FY 2005 ESTIMATE</u>	<u>TO COMPLETE</u>
APN V-22	616,615	607,861	796,392	1,096,891	1,198,277	1,549,705	1,560,390	1,537,154	12,297,856
ADV PROCUREMENT	59,971	53,862	71,044	80,531	168,977	228,657	180,537	153,367	792,054
APN SPARES	21,397	30,365	68,910	132,846	183,764	55,326	54,739	52,108	339,398
TOTAL APN	697,983	692,088	936,346	1,310,268	1,551,018	1,833,688	1,795,666	1,742,629	13,429,308

Related RDT&E

(U) PE 116404BB CV-22

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(U) D. ACQUISITION STRATEGY: The V-22 program is designed to provide an aircraft to meet the medium lift amphibious/vertical assault needs of the USMC and the special operations needs of the USSOCOM. The aircraft will be capable of operations from aviation and air capable ships, as well as from unimproved landing sites throughout the world. The tiltrotor aircraft combines the speed, range and fuel efficiency normally associated with turboprop aircraft with the vertical take-off/landing and hover capabilities of helicopters. The special operations aircraft (CV-22) will consist of the baseline V-22 aircraft (MV-22) configuration plus a terrain following radar, additional fuel tanks, radios and flare/chaff dispensers, radar jammer and warning receiver, and infrared countermeasures. The CV-22 will be approximately 90% common with the MV-22.

(U) E. SCHEDULE PROFILE

	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>To Complete</u>
(U) Program Milestones				1Q01 MSIII(FRP) 2Q01 MV-22 IOC
(U) Engineering Milestones	1Q98 CV PDR	1Q99 CV CDR		
(U) T&E Milestones	4Q98-1Q99 OT-IID	2Q99 SEA TRIALS	1Q00-3Q00 OPEVAL	1Q00 START CV-22 FLIGHT TEST
(U) Contract Milestones				

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EXHIBIT R-3, FY 2000 RDT&E,N COST ANALYSIS

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<u>Cost Categories:</u>	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior Yrs Cost</u>	<u>FY 1999 Cost</u>	<u>FY 1999 Award Date</u>	<u>FY 2000 Cost</u>	<u>FY 2000 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
<u>PRODUCT DEVELOPMENT</u>										
AWARD FEE	CPAF	Bell-Boeing, Arlington, VA	3,170,526	251,093	OCTOBER	115,873	OCTOBER	212,280	3,749,772	3,409,521
		Bell-Boeing	125,319	31,952		12,876		9,872	180,019	
	CPIF	Allison Indianapolis, IN	169,368	4,409	OCTOBER	1,334	OCTOBER	CONT	CONT	
	T & M	STI Rockville, MD	17,914	1,867	OCTOBER	1,264	OCTOBER	CONT	CONT	
	T & M	VSS Alexandria, VA	4,651	493	OCTOBER	518	OCTOBER	CONT	CONT	
	CPIF	Hughes Indianapolis, IN	5,337	3,151	OCTOBER	0	OCTOBER	CONT	CONT	
	WX	NAWCADPAX*		55,765	OCTOBER	47,679	OCTOBER	CONT	CONT	
	WX	NAD CH PT		9,279	OCTOBER	8,561	OCTOBER	CONT	CONT	
	WX	NAWCADLKE		5,574	OCTOBER	3,720	OCTOBER	CONT	CONT	
	WX	NAWCWDCHL		1,181	OCTOBER	721	OCTOBER	CONT	CONT	
	WX	NATSF		1,526	OCTOBER	161	OCTOBER	CONT	CONT	
	Various	MISC Gov't		4,179	OCTOBER	3,054	OCTOBER	CONT	CONT	
Subtotal Product Development			6,073,966	338,517		182,885		0	0	

Remarks:

AWARD FEE IS A NON-ADDITIVE NUMBER. Fees actually awarded range from 67% to 86%. Target value of Bell-Boeing contract doesn't include anticipated overrun, ACO orders, or new efforts not already on contract (FY 99-05). Prior year costs are not available for In-House activities.

*Includes former NAWC Indianapolis efforts now privatized and contracted with Raytheon.

SUPPORT

Subtotal Support	0	0	0	0	0	0
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Cost Categories:	Contract Method & Type	Performing Activity & Location	Total Prior Yrs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	Cost to Complete	Total Cost	Target Value of Contract
<u>Test and Evaluation</u>										
Subtotal Test & Evaluation			0	0		0		0	0	
Remarks:										
<u>Management</u>										
Subtotal Management			3,093	0		0		0	3,093	
Remarks: ASN directed studies										
SBIR Assessment				7,265						
Total Cost			6,077,059	345,782		182,885		323,379	6,929,105	

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